

ABSTRACT

The present invention provides a magnetic memory device capable of reducing a loss of a magnetic field generated by currents flowing in a write line and performing writing stably, and a magnetic memory cell mounted on the magnetic memory device. Further, the invention provides a method for easily manufacturing such a magnetic memory device. A magnetic memory cell includes: stacked bodies each including a magneto-sensitive layer whose magnetization direction changes according to an external magnetic field, and constructed so that current flows in a direction perpendicular to a stack layer surface; and a toroidal magnetic layer disposed between the first and second stacked bodies so that the direction along the stack layer surface is set as an axial direction, and constructed so as to be penetrated by a plurality of conductors along the axial direction. Thus, strength reduction in a circulating magnetic field generated in a toroidal magnetic layer can be suppressed, and the magnetization direction of a magneto-sensitive layer in each of the first and second stacked bodies can be inverted by a smaller write current.